



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,729	08/14/2001	Hiroshi Sato	0015098 (135)	9033

7590 09/20/2004

MOONRAY KOJIMA
BOX 627
WILLIAMSTOWN, MA 01267

EXAMINER

CHOOBIN, BARRY

ART UNIT PAPER NUMBER

2625

DATE MAILED: 09/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/929,729	Applicant(s) SATO ET AL.	
	Examiner Barry Choobin	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-37 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 18,25,27 and 29 is/are rejected.
- 7) ☒ Claim(s) 19-24,26,28 and 30-37 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>August 14, 2001</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on August 14, 2001 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on October 11, 2000. It is noted, however, that applicant has not filed a certified copy of the foreign application 2000-310531 as required by 35 U.S.C. 119(b).

Drawings

3. Figures 1-2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The abstract of the disclosure is objected to because it contains more than 150 words. Correction is required. See MPEP § 608.01(b).

PRELIMINARY AMENDMENT

5. Preliminary amendment filed on August 14, 2001 has been entered and claims 1-17 were cancelled. Claims 18-37 now are pending.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 18, 25, 27 and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Wilman et al (US 5,912,557).

As to claim 18, Wilman et al disclose an imaging method of (Wilman et al invention is in field of nuclear magnetic resonance imaging. See column 1, lines 12-17)

Art Unit: 2625

of encoding a K space (column 2, lines 55-67) so as to fill said K space with orthogonal two directions as phase axes (orthogonal by definition means "intersecting or lying at right angles" in fig.8b and fig.8b, Z direction and Y direction intersection corresponds to "orthogonal two directions as phase axes" in this claim), said method comprising the steps:

determining an encode order in consideration of distances from center of said K space to individual encode points (column 7, lines 47-66 wherein Wilman et al disclose a second method for producing the order list of sample points is based on the distance of the sample points from the origin {center} of K-space) and existing quadrants (inherently the existing quadrants are considered, since the K space is divide to four separate quadrants); and encoding said K space in said determined encode order (column 8, lines 1-3 wherein by using the second method the ordered list of desired phase encoding is determined).

As to claim 25, Wilman et al disclose the method of claim 18 (see claim 18, above), wherein an imaging region is scanned with an X direction as a read axis (column 5, lines 22-25 and fig.5, wherein signal 30 is read out in presence of Gx read out), and Y and Z directions as phase axes (column 7, lines 22-27); and wherein said K space is of a YZ-K space (column 7, lines 47-66 and fig.8a), and said center is a YZ-K space (column 7, lines 47-66); and wherein said encoding is in said YZ-K space thereby to perform a 3D scan (column 5, lines 37-42).

Art Unit: 2625

As to claim 27, Wilman et al disclose an imaging system (column 1, lines 13-16 wherein both, methods and systems of imaging is the field of the invention and fig.1), for encoding a K space so as to fill said K space with orthogonal two directions as phase axes to thereby collect data (fig.4), said system comprising;

means for setting an encode order in consideration of distances from center of said K space to individual encodes points (column 7, lines 47-66 wherein Wilman et al disclose a second method for producing the order list of sample points is based on the distance of the sample points from the origin {center} of K-space) and existing quadrants (inherently the existing quadrants are considered, since the K space is divide to four separate quadrants);

means for encoding said K space in said set encodes order to thereby collect data (column 8, lines 1-3 wherein by using the second method the list of desired phase encoding is determined).

As to claim 29, Wilman et al disclose the system of claim 27 (see claim 27 above), wherein said space is YZ-K space (column 7, lines 47-66 and fig.8a), and said center is of said YZ-K space (column 7, lines 47-66); and wherein said means for setting comprises means for determining an encode order in consideration of distances from said center of said YZ-K space to individual encode points (column 7, lines 47-66 wherein Wilman et al disclose a second method for producing the order list of sample points is based on the distance of the sample points from the origin{center} of K-space) and existing quadrants (inherently the existing quadrants are considered, since the K

Art Unit: 2625

space is divide to four separate quadrants); and means for encoding in said YZ-K space in said set encode order (column 8, lines 1-3 wherein by using the second method the list of desired phase encoding is determined) to thereby perform a 3D scan (column 5, lines 37-42).

Allowable Subject Matter

Claims 19-24, 26, 28 and 30-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barry Choobin whose telephone number is 703-306-5787. The examiner can normally be reached on M-F 7:30 AM to 18:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 703-308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

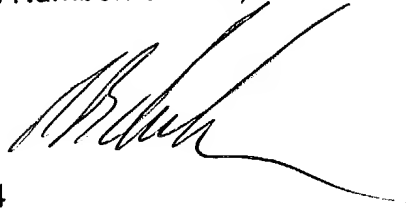
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 09/929,729

Page 7

Art Unit: 2625

Barry Choobin

A handwritten signature in black ink, appearing to read 'Barry Choobin', with a long horizontal flourish extending to the right.

September 2, 2004